Nebo Vision Baseline Study

Prepared by:
Quality Growth Efficiency Tools (QGET)
Technical Committee

October 31, 2000

Overview

- Contributors
- Limitations
- Context
- Analysis

Approaching south summit of Mount Nebo

Contributors

- 10 municipalities
- Utah County
- Swaner Design
- Quality Growth Efficiency Tools (QGET)
  - Mountainland Association of Government
  - Governor's Office of Planning and Budget
  - Automated Geographic Reference Center
  - Division of Air Quality
  - Division of Water Resources
  - Psomas Engineering

Limitations

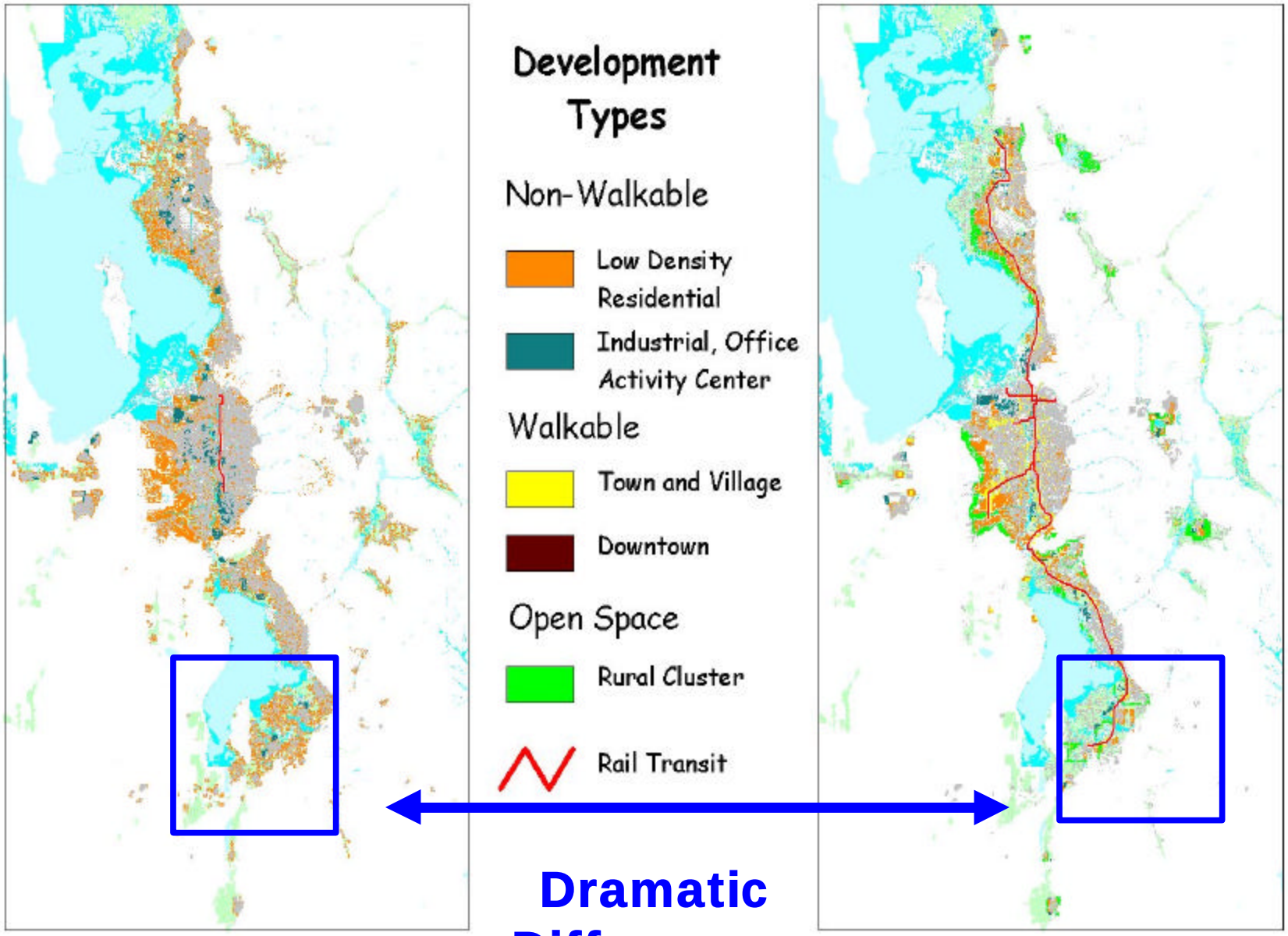
- Work in progress
- Prepared at the sub-regional scale
  - Different in nature from a regional or community level analysis
- Sparse population (relatively speaking) presents unique modeling challenges
- Will be revised once Census 2000 results are released
- Limited scope
  - Population, land use, transportation, and air quality
  - Water and infrastructure costs to be added later

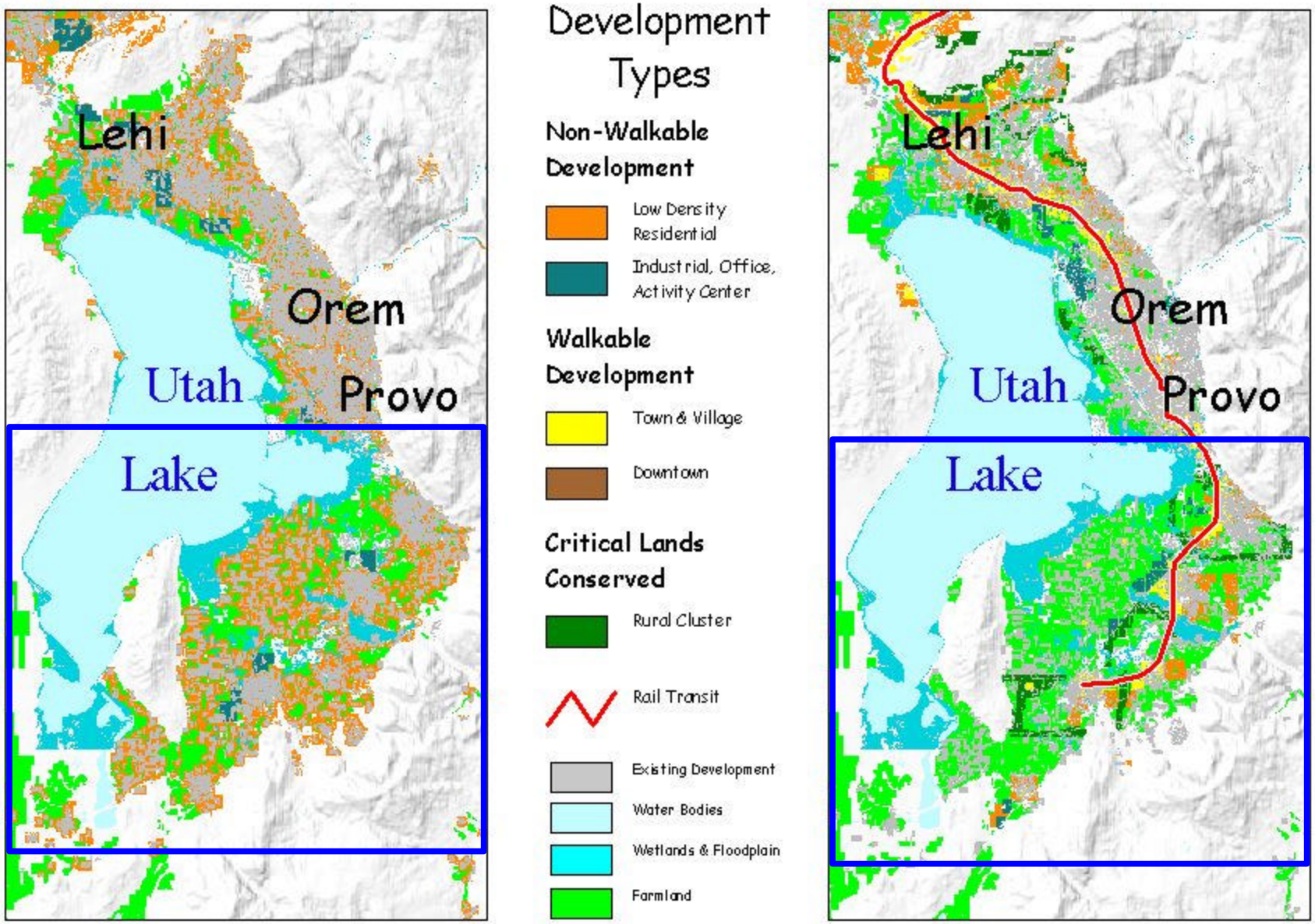
Context

- Big picture; long view
- Envision Utah Quality Growth Strategy
- Sub-regional domain
- Rapid Growth
- Tools for planning

The future is not something we enter; it is something we create.

-- Leonard Sweet


Development Types
Non-Walkable
Low Density Residential
Industrial, Office Activity Center
Walkable
Town and Village
Downtown
Open Space
Rural Cluster
Rail Transit
Dramatic Differences
Baseline Scenario
Quality Growth Strategy



Baseline Scenario

Quality Growth Strategy

Geography Matters

Region

- Airshed
- Watershed
- Commutershed
- Regional infrastructure

Sub-Region

- Air pollution roams
- Incomplete watershed
- Significant in- and out-commuting
- Impacted by out-of-area infrastructure

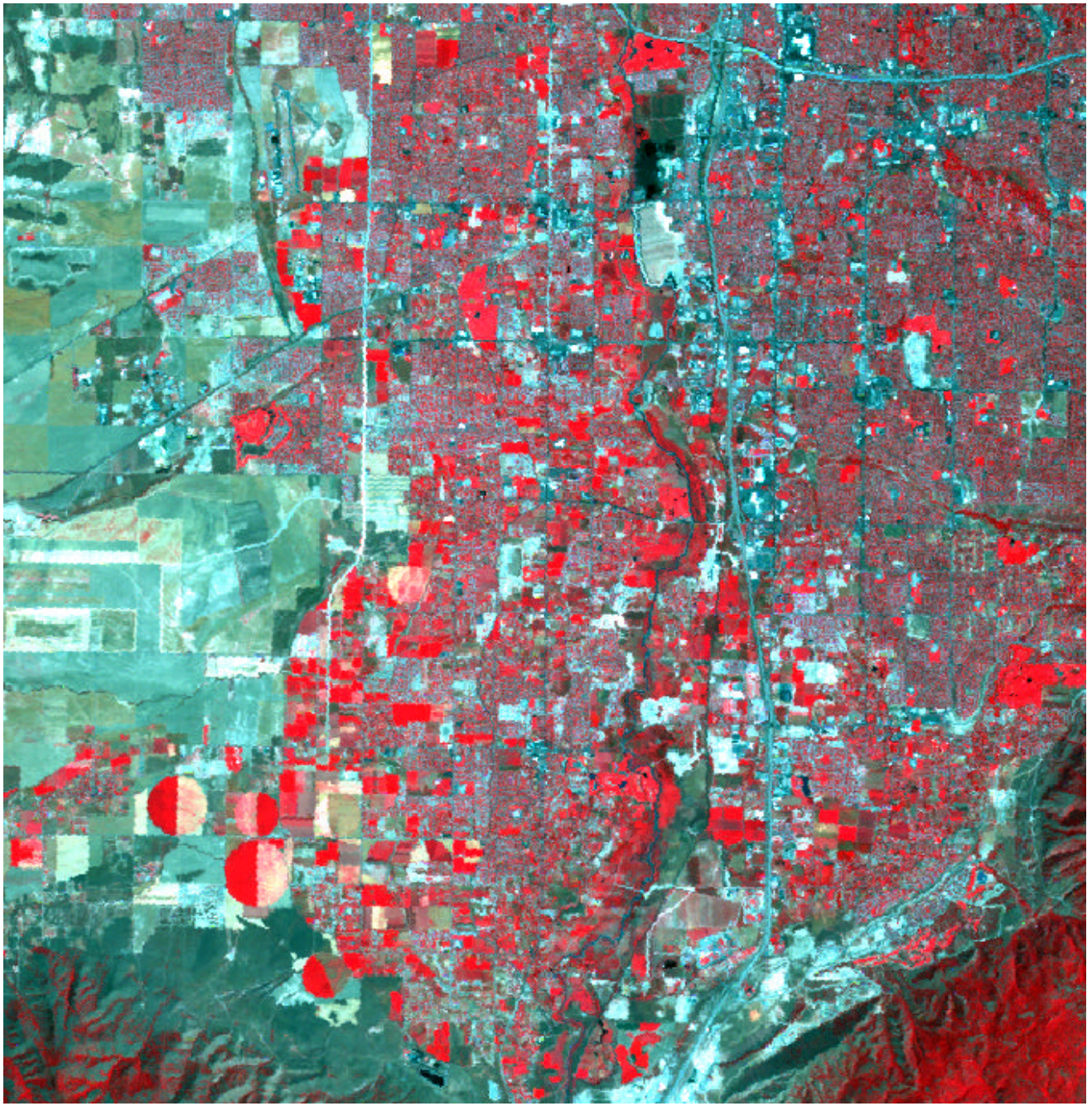
Growth in South Salt Lake Co.

1972

1982

1993

1997



Analysis

- What is a baseline?
- Population projections
- Land use
  - New developed area
  - Open space
  - Agricultural lands
- Transportation
- Air Quality

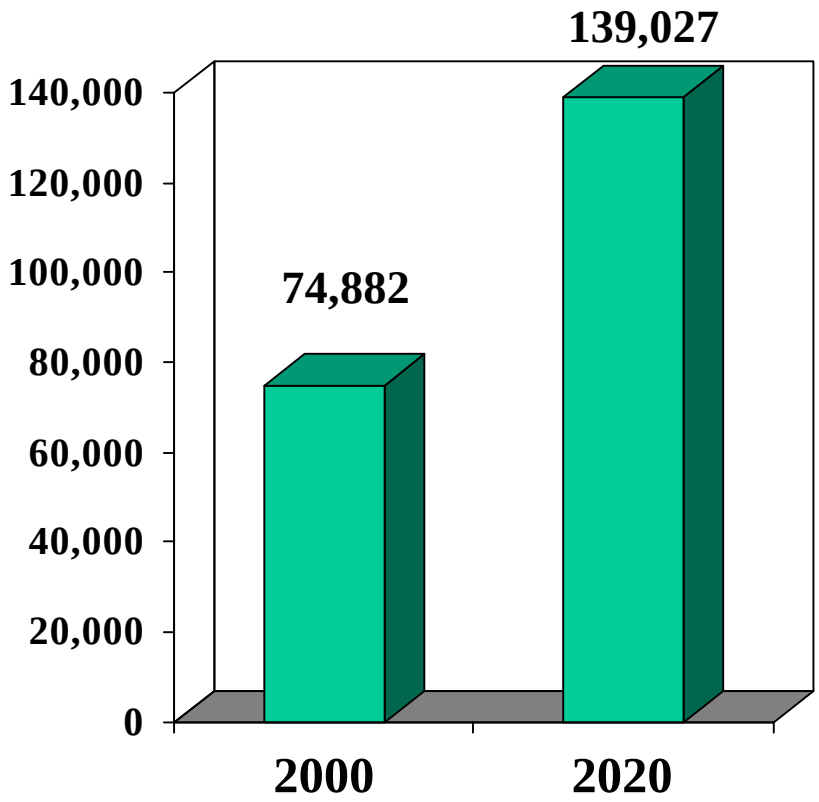
Baseline Analysis

- Provides a general vision of likely future conditions
- Serves as a benchmark against which an alternative(s) can be assessed
- Compiled from existing planning documents and a planner's workshop
- Not a prediction or forecast, but rather an extension of current trends given the working out of various assumptions
- Like all thinking about the future, includes considerable uncertainty, but is very useful

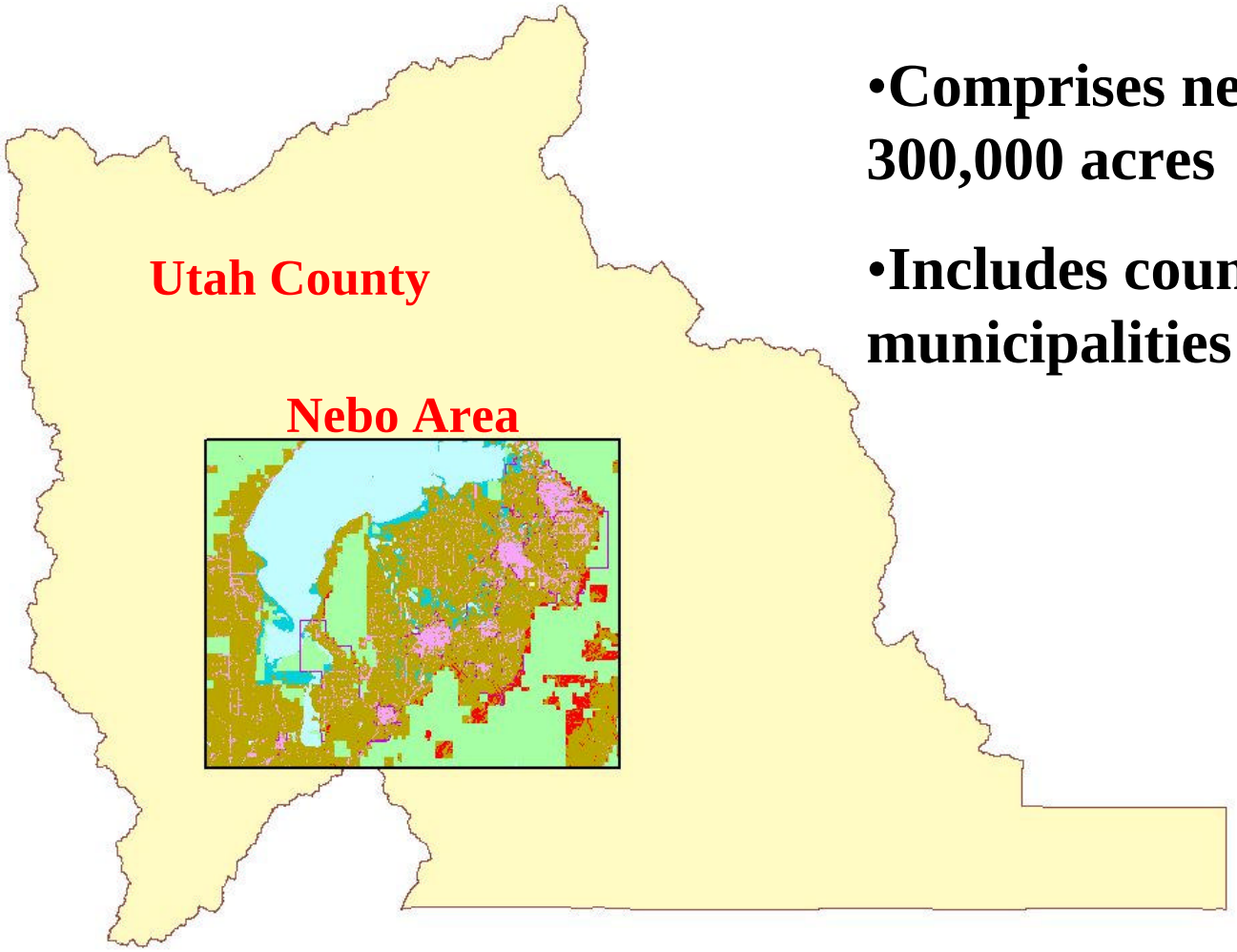
Baseline Population Projections

- Near doubling of the population over 20 years
- Increase of 64,145 people – the approximate size of West Jordan (Utah's 7th largest city) today
- Projected to increase at nearly twice the rate of the state
  - Nebo Area: 86% increase 2000-2020
  - State: 48% increase 2000-2020

Nebo Area Population



Nebo Vision Study Area



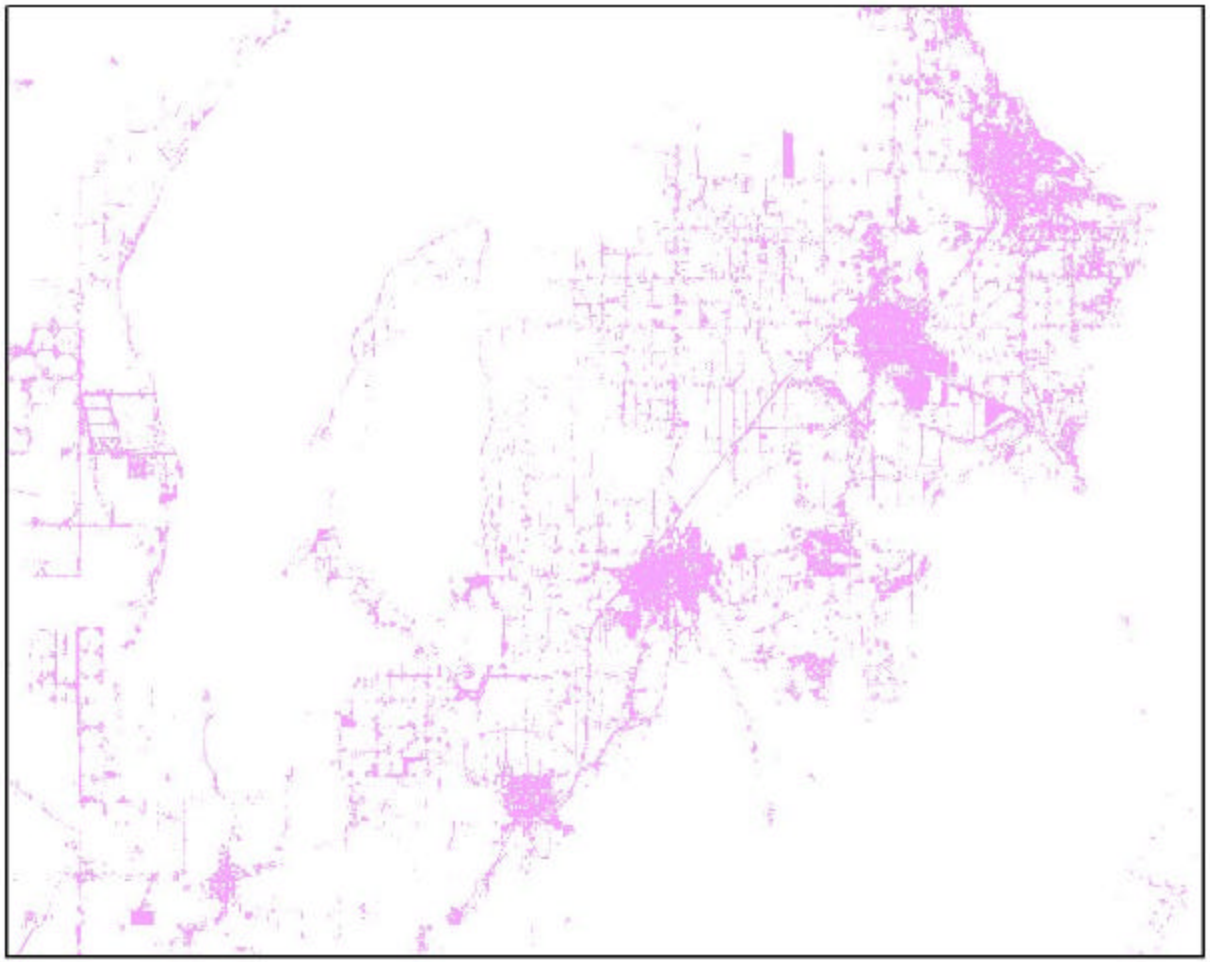
- Comprises nearly 300,000 acres
- Includes county plus 10 municipalities

Building Baseline Land Use:
Constrained Lands

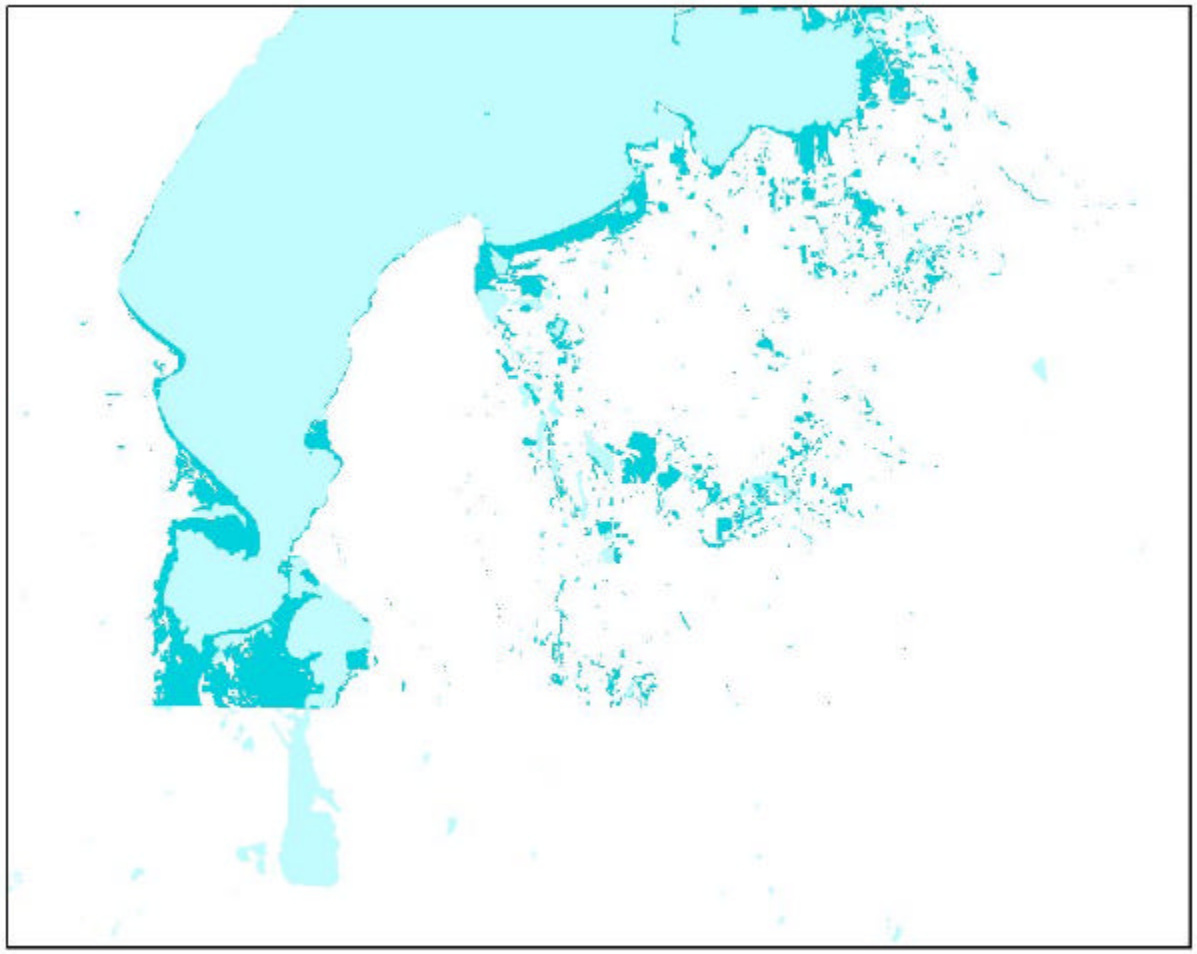
- A data layer was compiled to represent land use excluded from development
  - Existing built area
  - Water and Wetlands
  - Slopes 25% and steeper
  - Public lands

"Where we can't or chose not to grow"

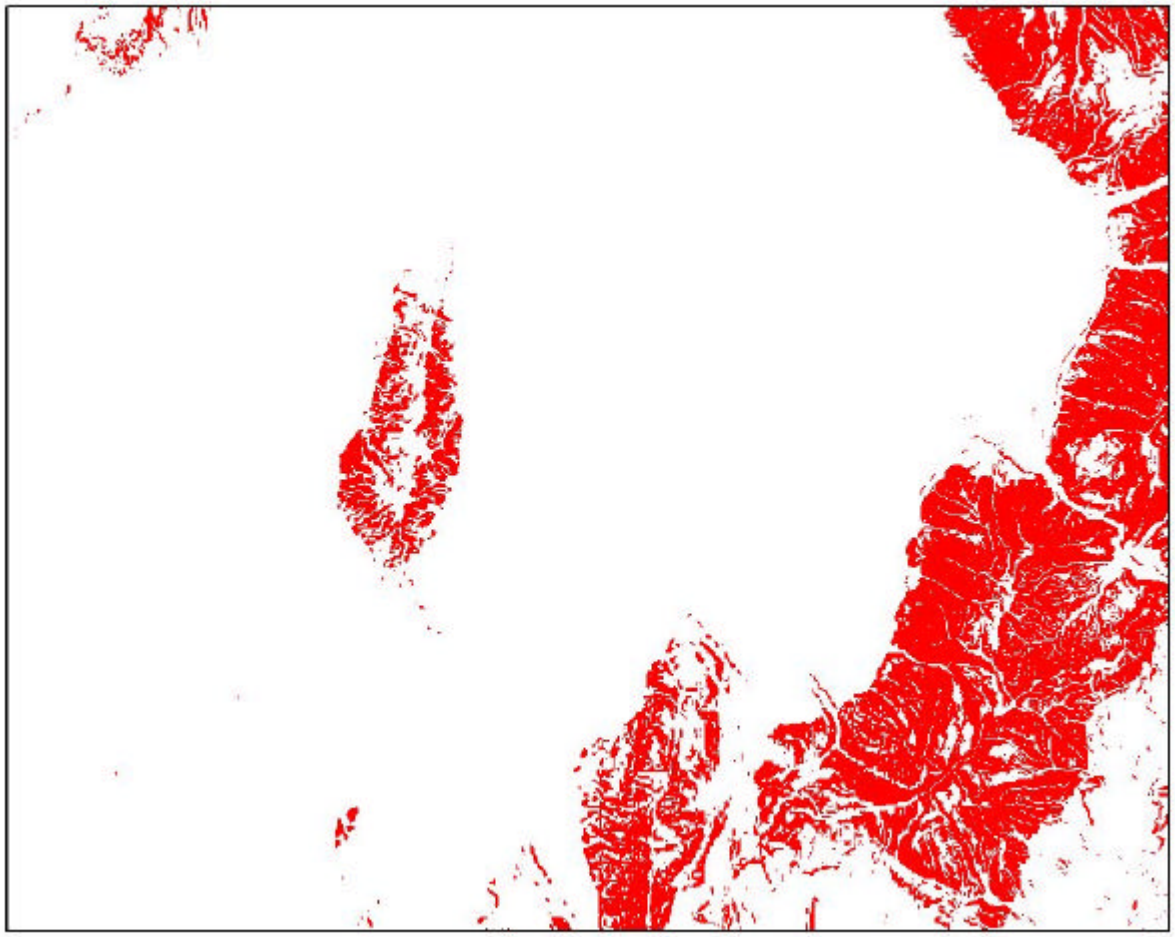
Existing Built



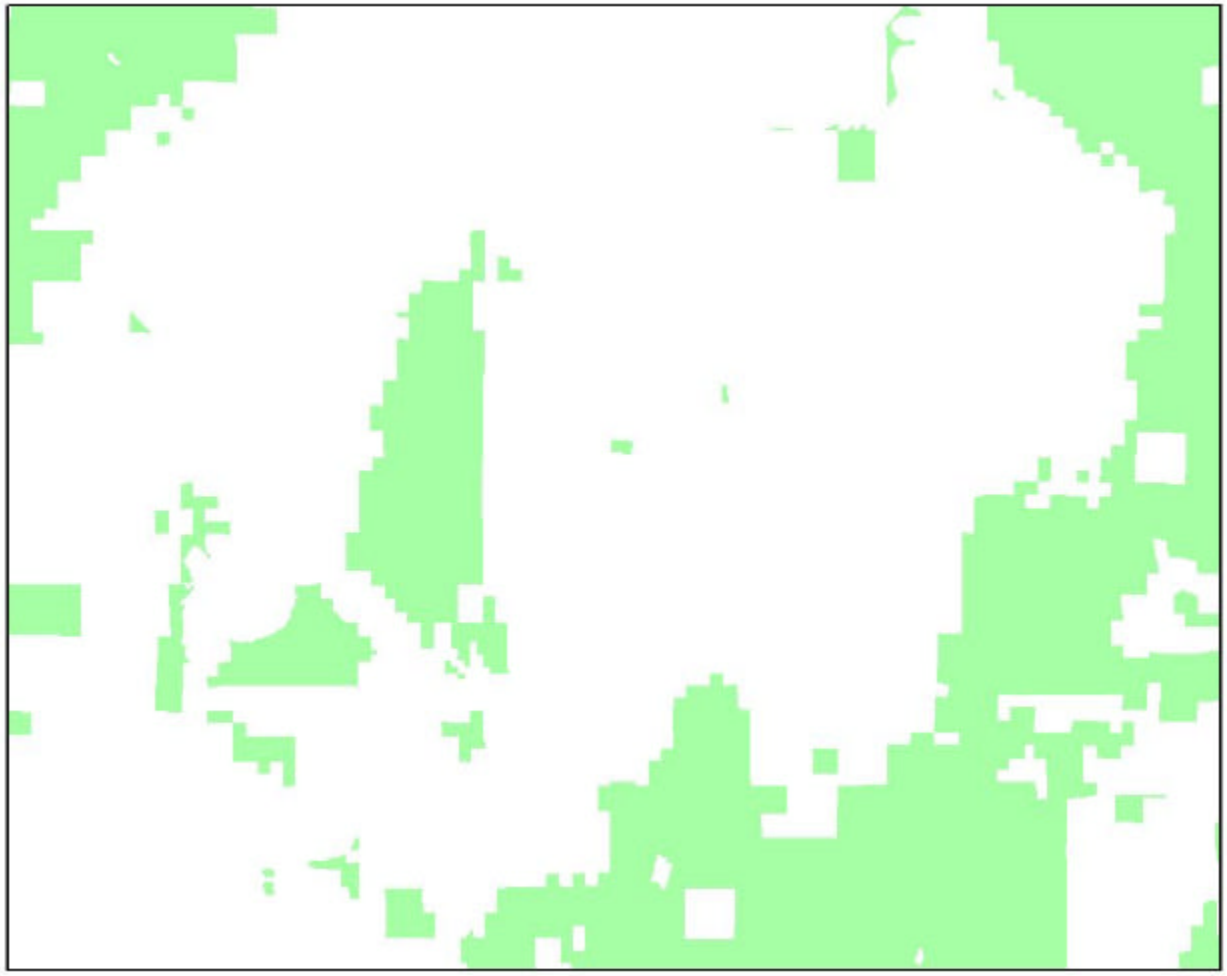
Water and Wetlands



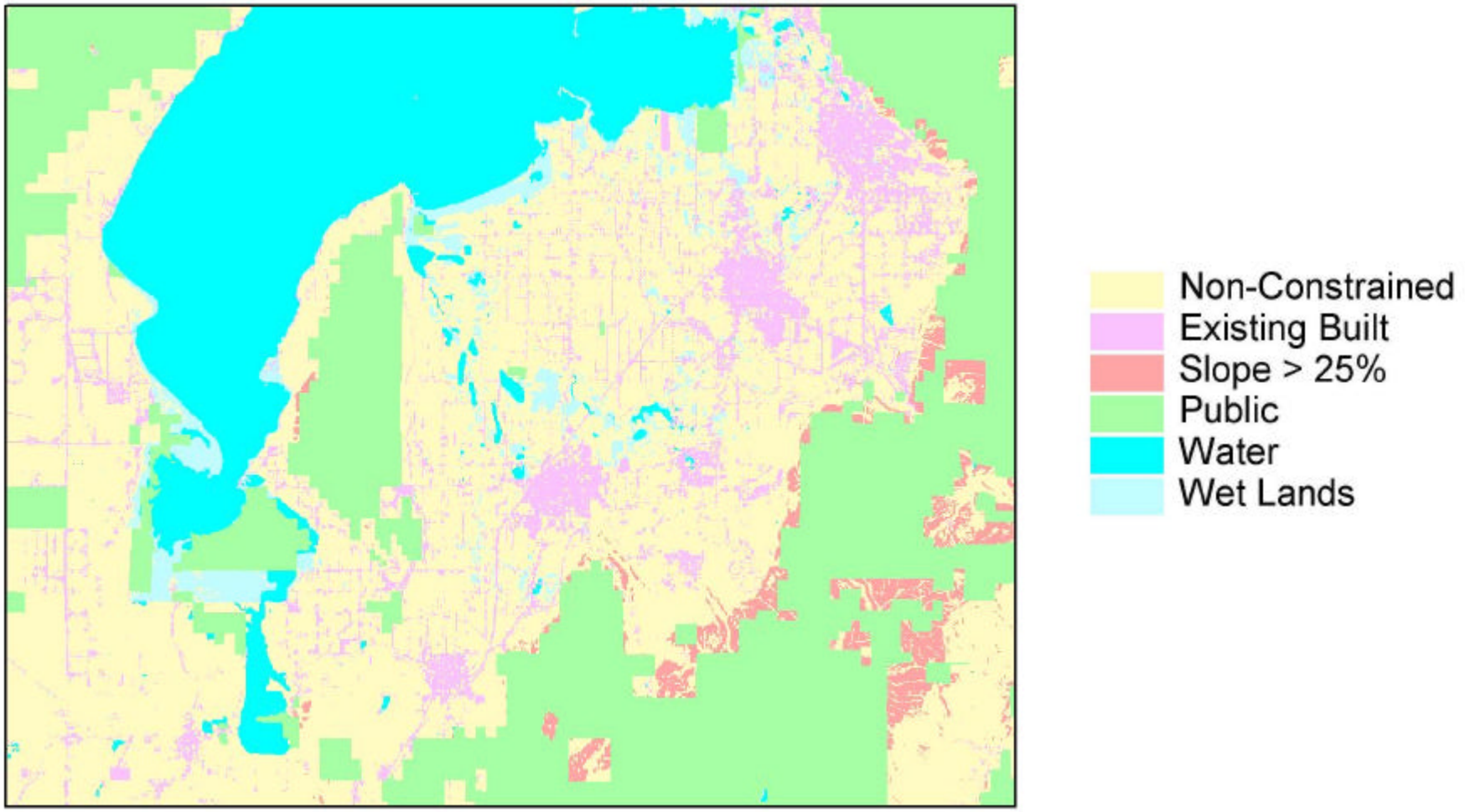
Steep Slopes



Public Lands

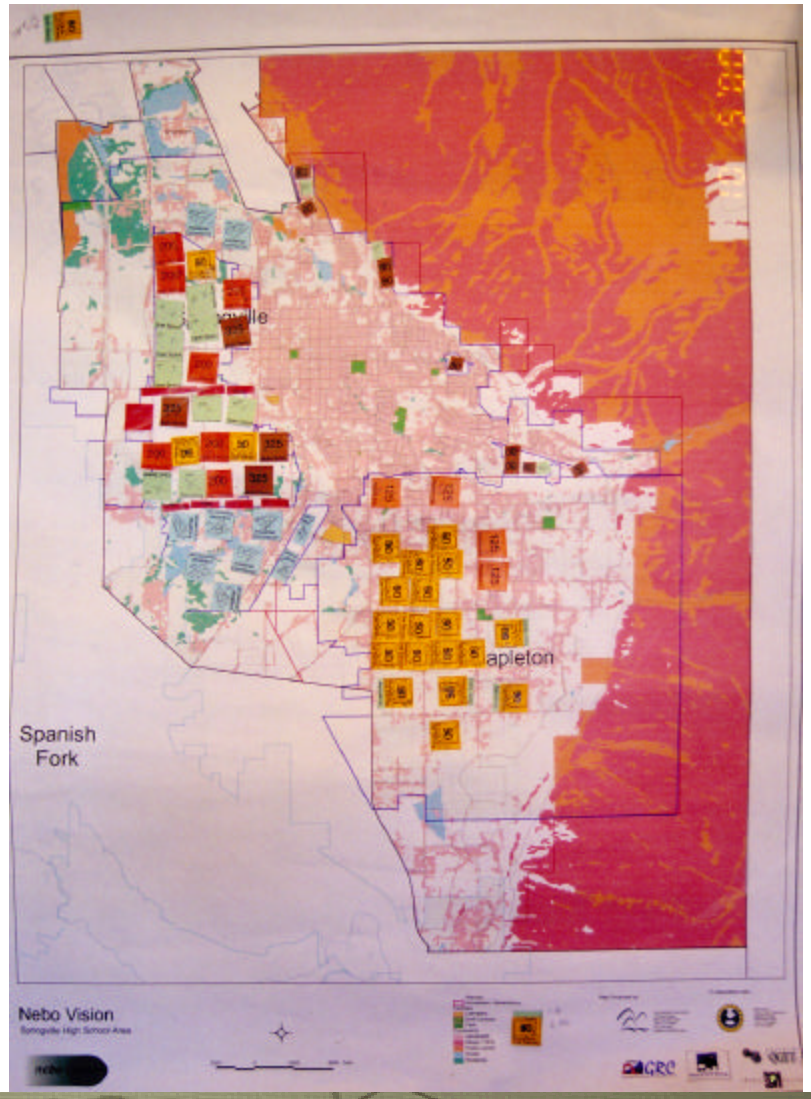


Compiled Constraints



Delineating Land Use

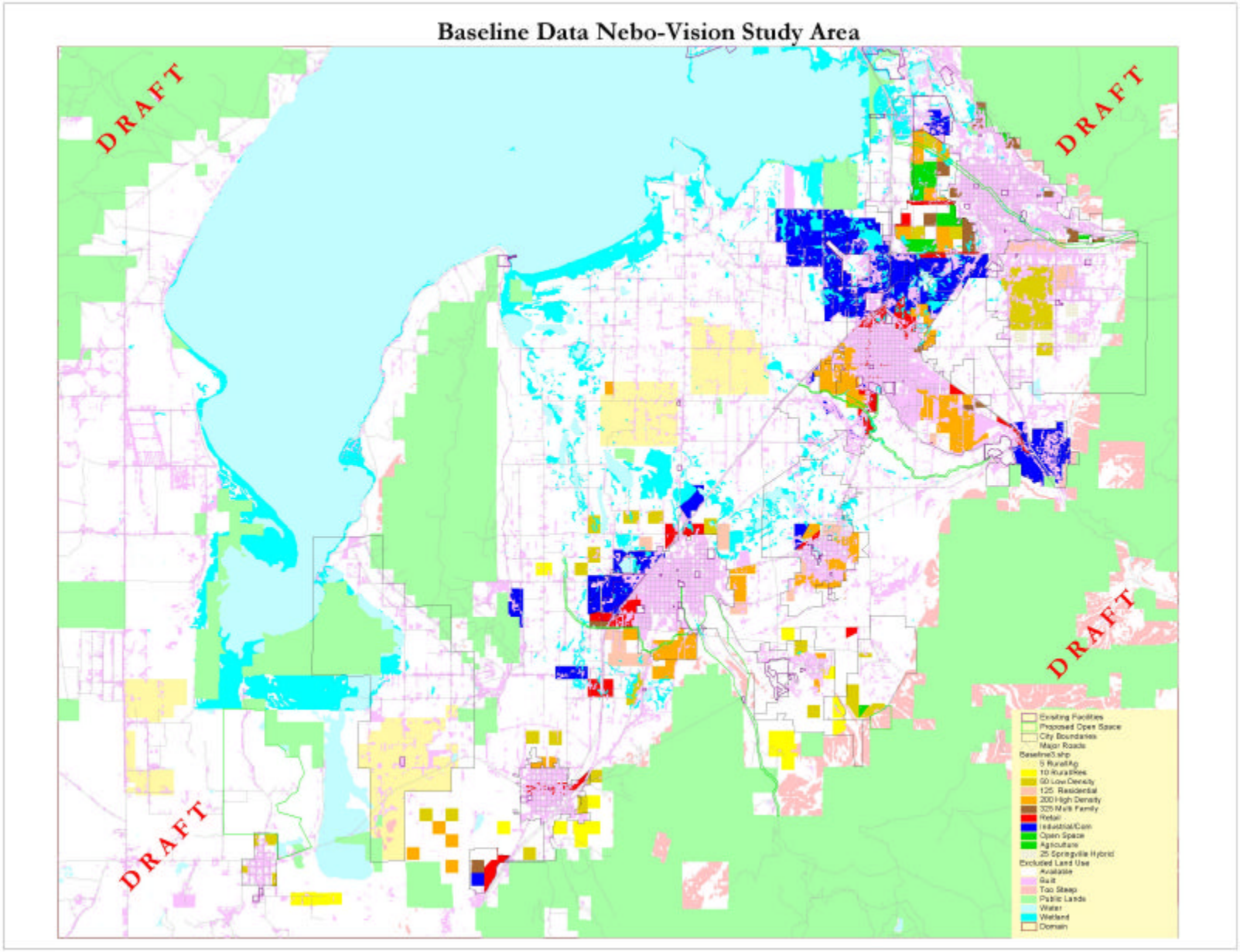
- Planners were given the opportunity to place chips representing various development types
- Each chip represents 50 acres of the prescribed development type
- Partial chips were used as well



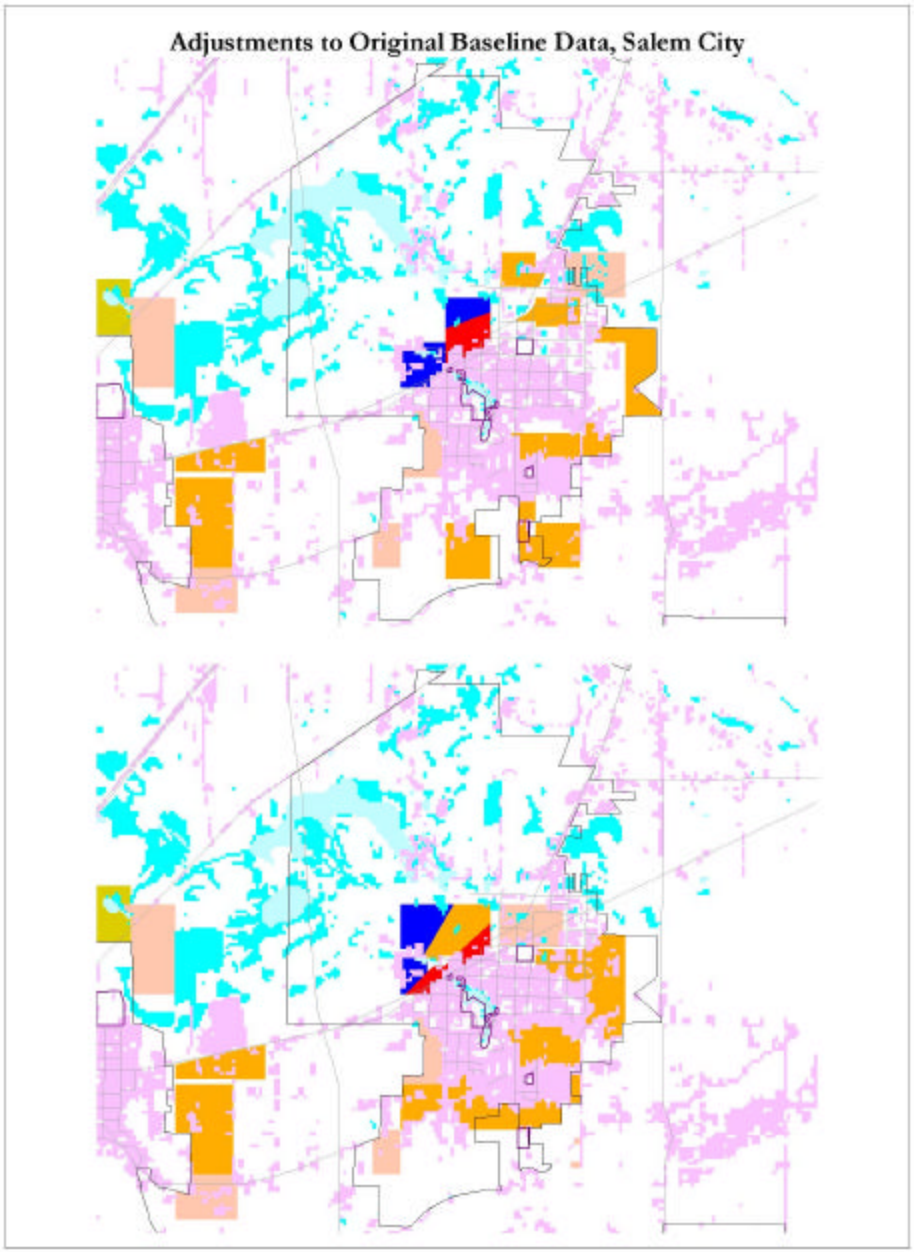
Development Types

Each square represents 50 acres

Nebo Vision Land Use



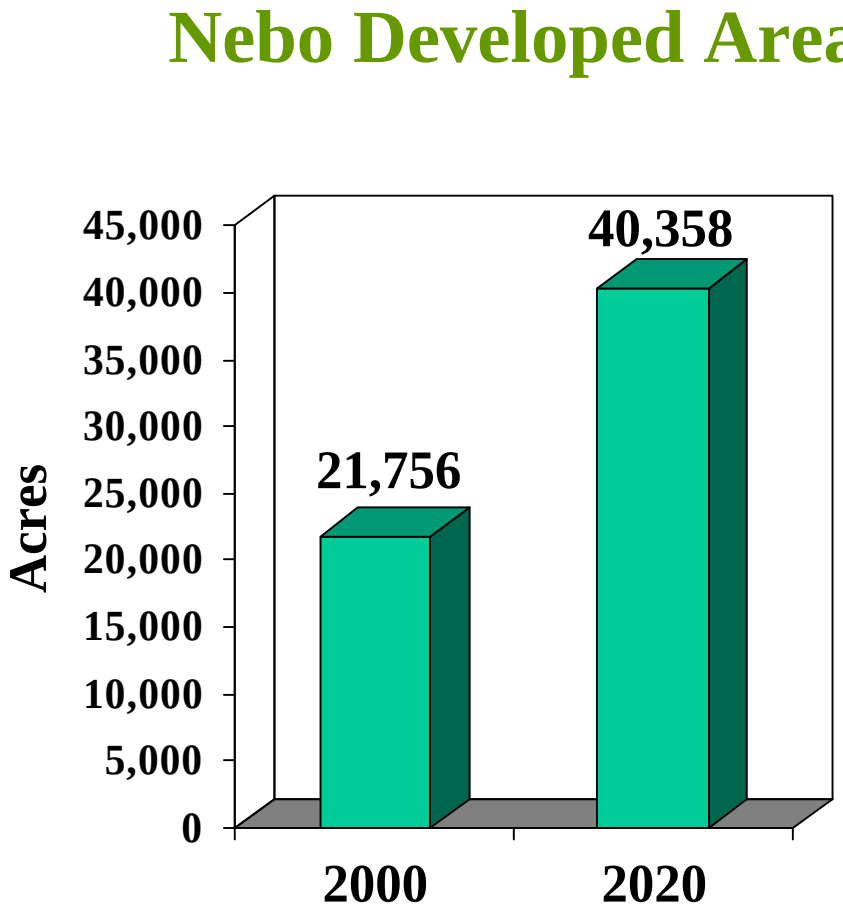
Land Use is Always a Work In Progress



Example of adjustments to original baseline in Salem

Land Use Statistics

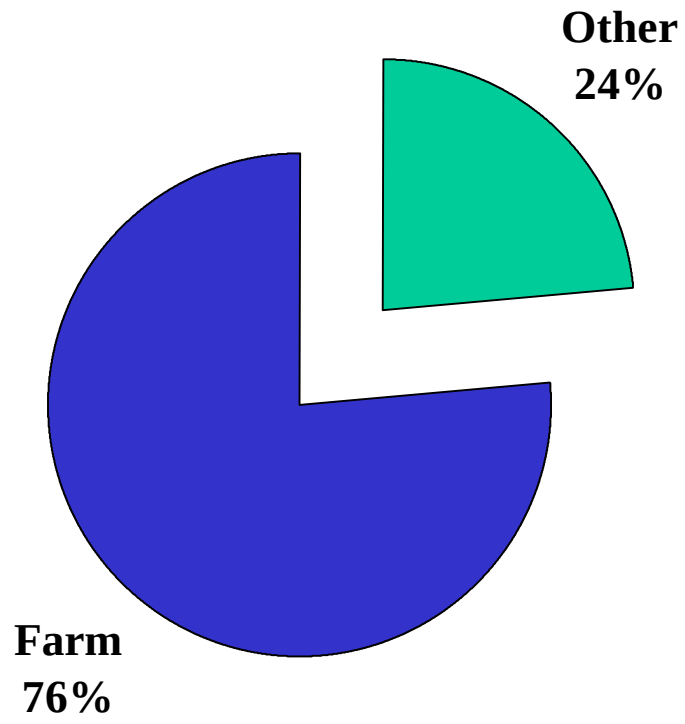
- Developed area increases by 86% from 2000-2020
- Adds 18,602 new acres of development – the approximate land area of Ogden
- Conserves 370 acres of open space



Land Use Statistics

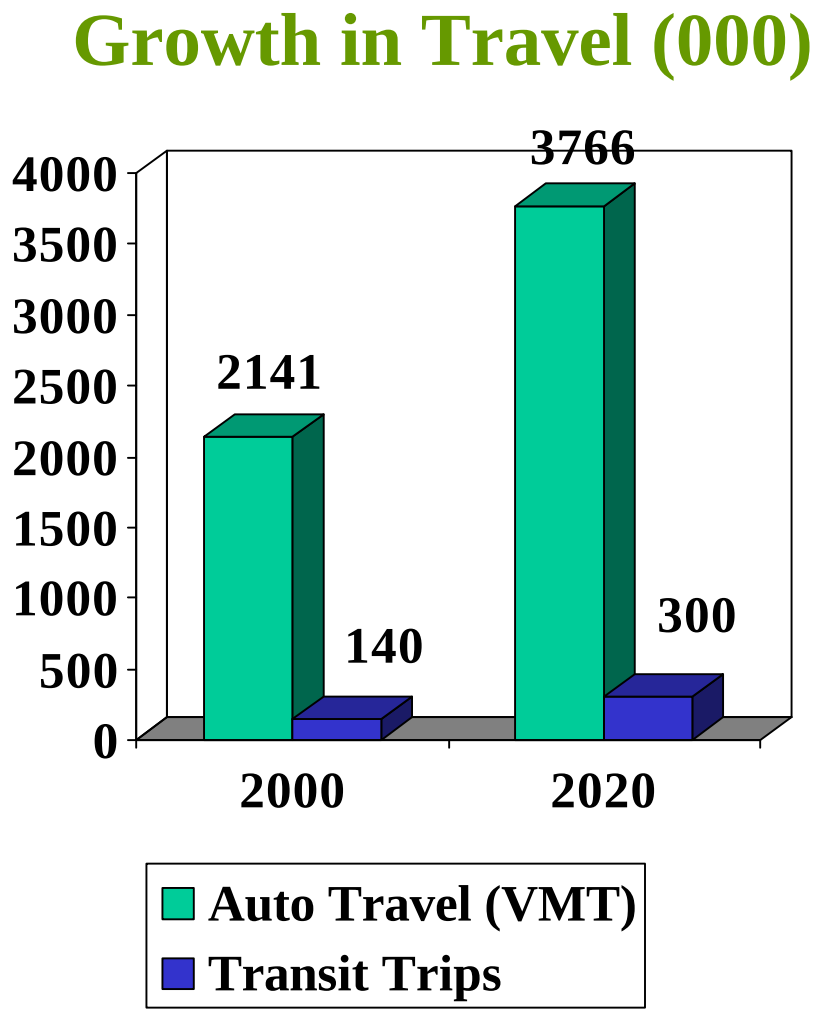
- A total of 14,209 acres of irrigated agricultural lands are expected to be converted to urban uses
- Three out of every four new acres of development are projected to come from irrigated agricultural lands

Source of New Developed Area



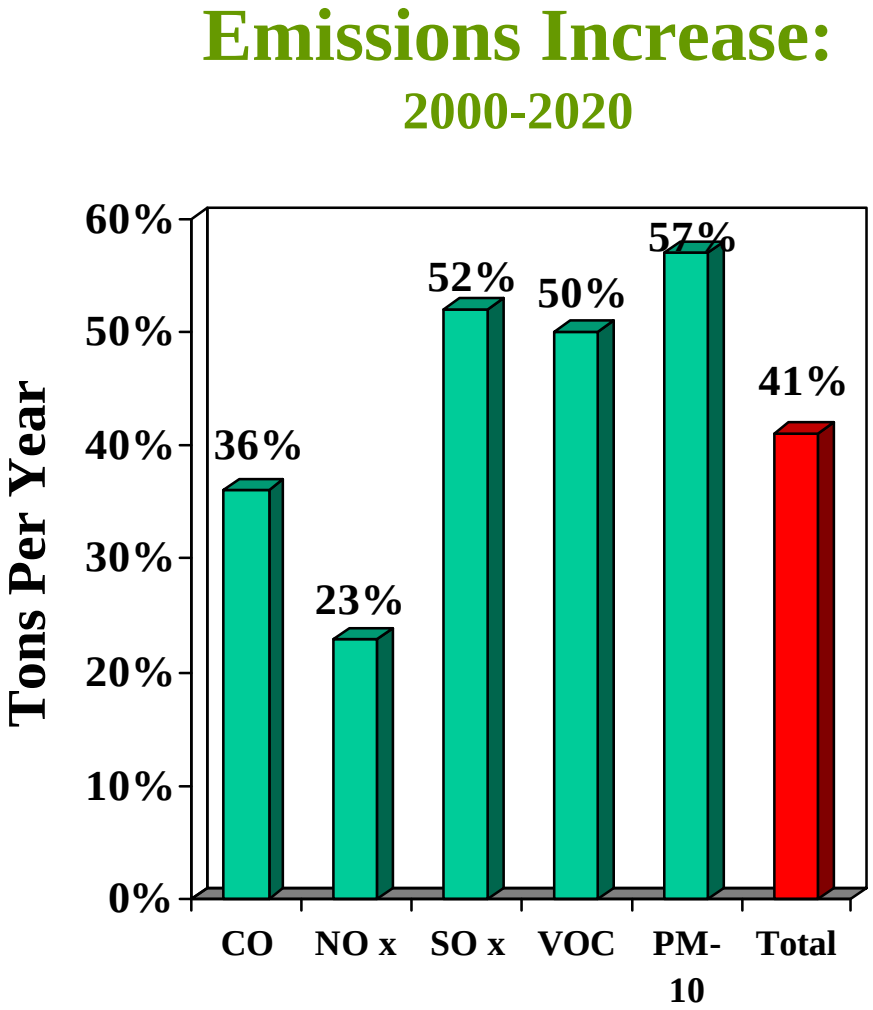
Transportation Statistics

- Vehicle travel and public transportation use increase
  - 76% increase in vehicle travel
  - 114% increase in transit trips
- Speeds and trip time improve slightly due to strong employment growth in the area



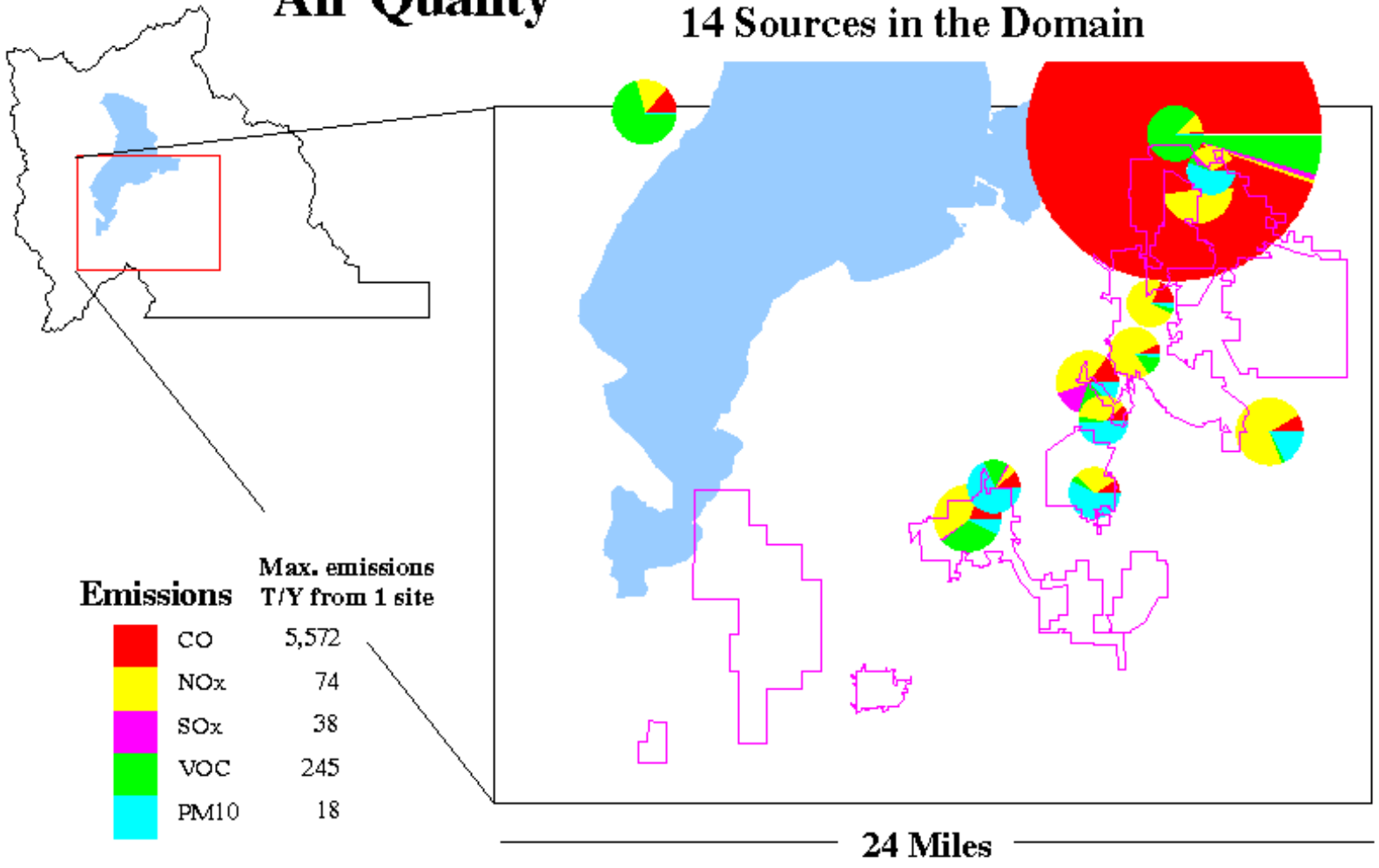
Air Quality Statistics

- Emissions increase 41% from 2000-2020
- Largest increase occurs in PM-10
- Cleaner burning cars critical to air quality results
- Area source pollutants of particular importance in a sub-regional setting



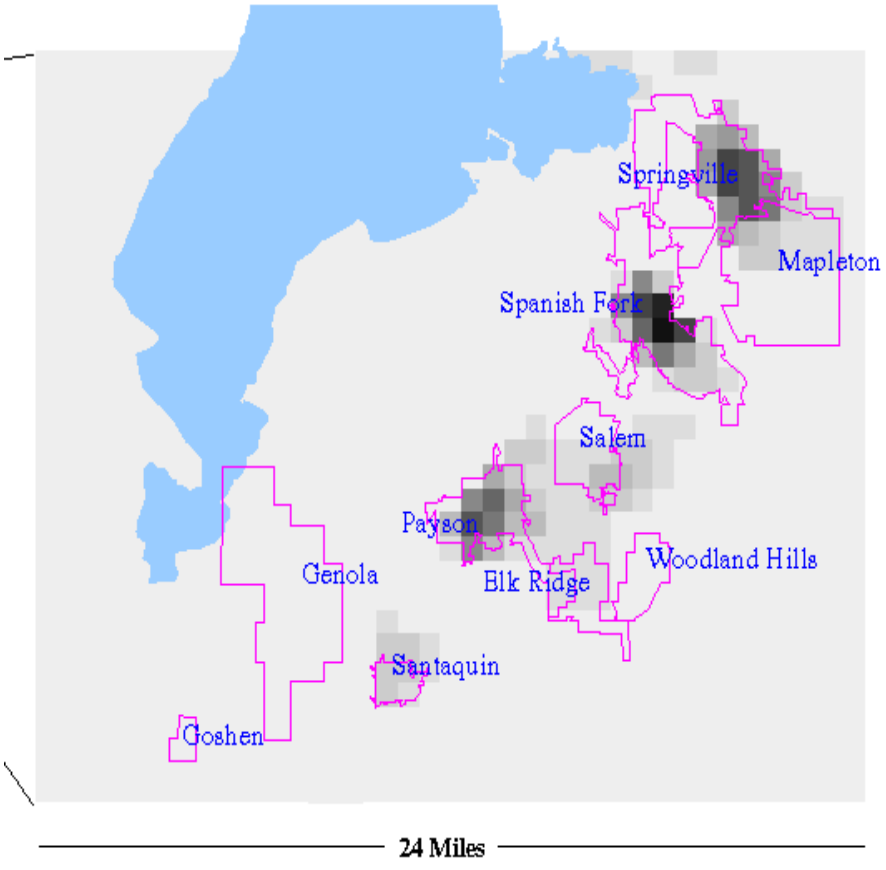
Air Quality

Point Source Emissions
14 Sources in the Domain



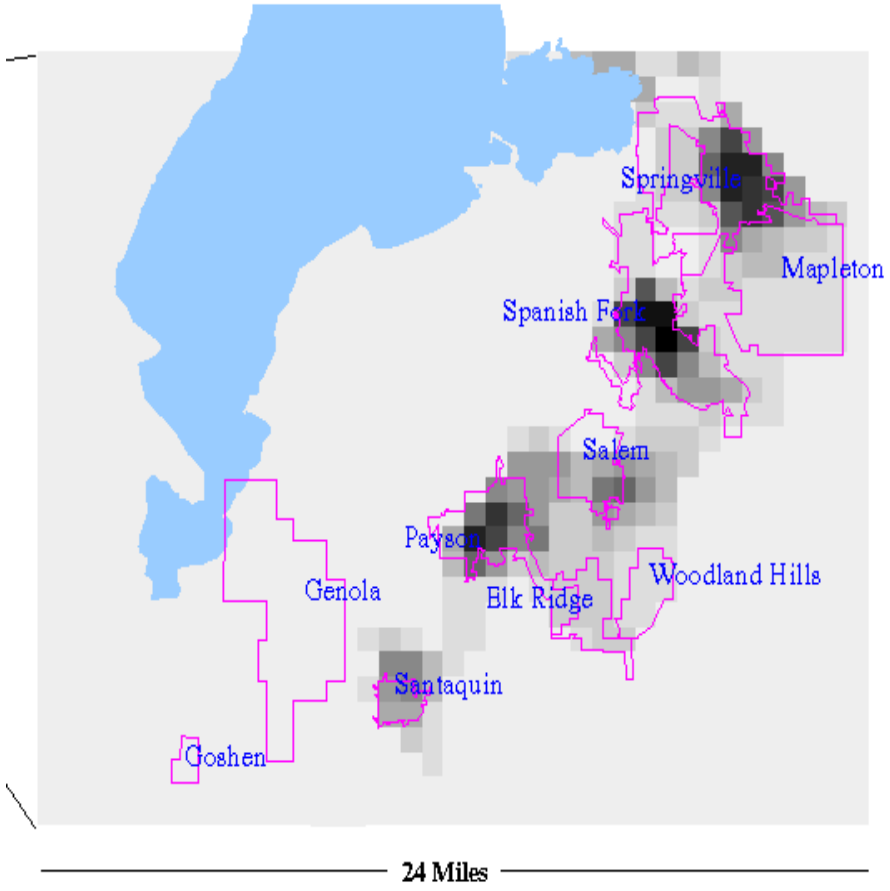
Pollution Potential: All Pollutants **Year: 1996**

Area Source Emissions
Distributed by population



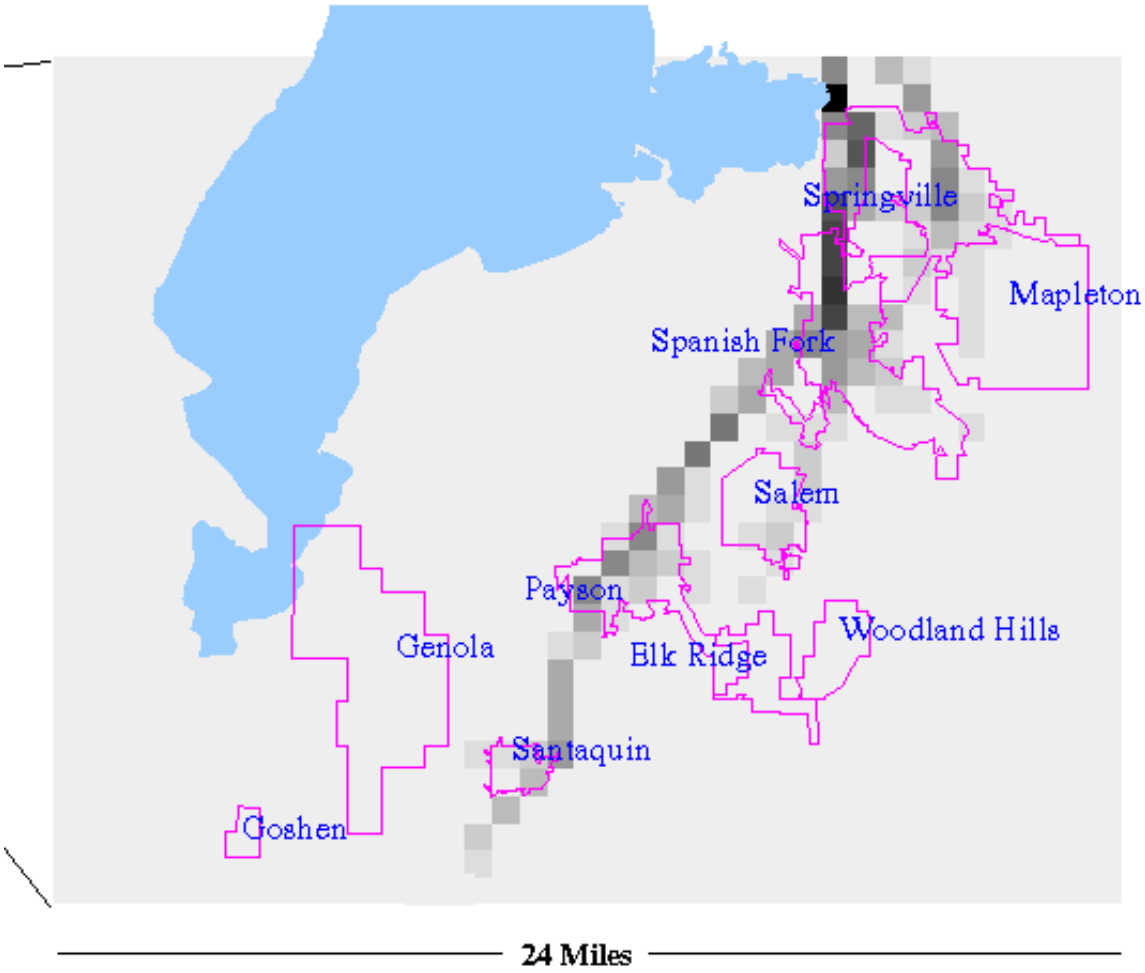
Pollution Potential: Ozone Year: 2000

Area Source Emissions
Distributed by population



Pollution Potential: Ozone Year: 2020

Mobile Source Emissions



Pollution Potential: Ozone Year: 2020

Conclusions

- Possible to envision a future much different than today
  - Near doubling of the population
  - 86% increase in the amount of developed land
  - 14,209 acres of irrigated agricultural land converted to urban use
  - Significantly more vehicle travel and transit use
  - 41% increase in tons of pollution released each year
- Add water demand and infrastructure cost at a later date
- Still working to apply QGET's tools to the unique challenges of sub-regional analysis

What's Next

- Develop alternative
- Analyze alternative
- Revisit baseline
- Compare alternative scenario with revised baseline
- Provide community specific assistance